

SEA-TROSY AND RELATED METHODS

A method for preferentially observing an exposed position (**1c**) of a macromolecule. A sample is obtained having a macromolecule (**1a**) with a first proton (**1**) and a second molecule (**2a**) with a second proton (**2**); then applying a magnetic field (**4**) to the sample and irradiating the sample with a pulse sequence (**5**) that preferentially demagnetizes protons of the macromolecule (**1,3**) relative to the second proton (**2**); allowing the second proton (**2**) to exchange (**6**) with an exposed proton (**1**) of the macromolecule; and detecting the magnetization from the relatively magnetized second proton (**2**), which is now bound to the exposed position (**1c**) of the macromolecule. The invention also provides a method for observing a position in the macromolecule that bind a ligand.